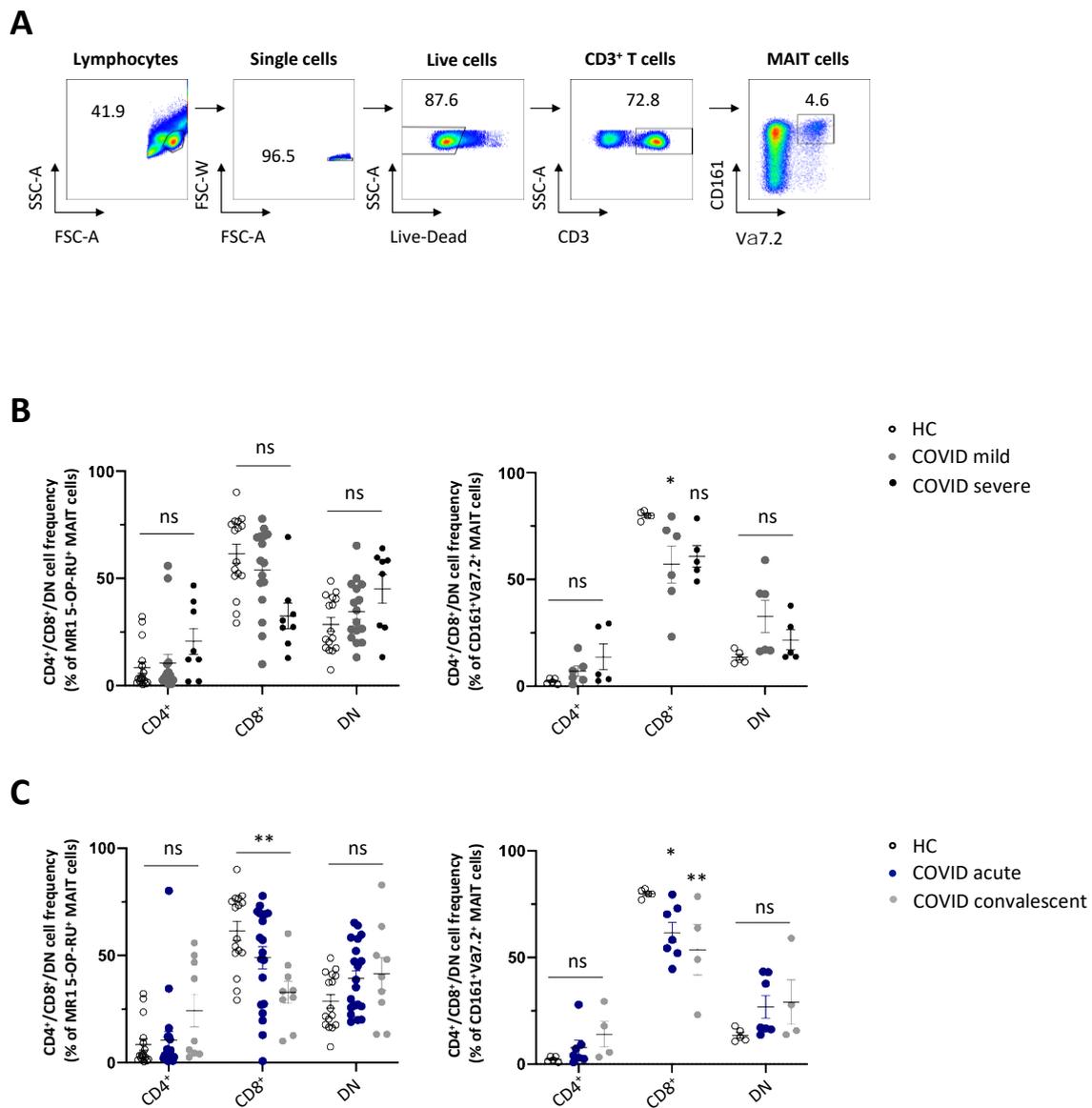
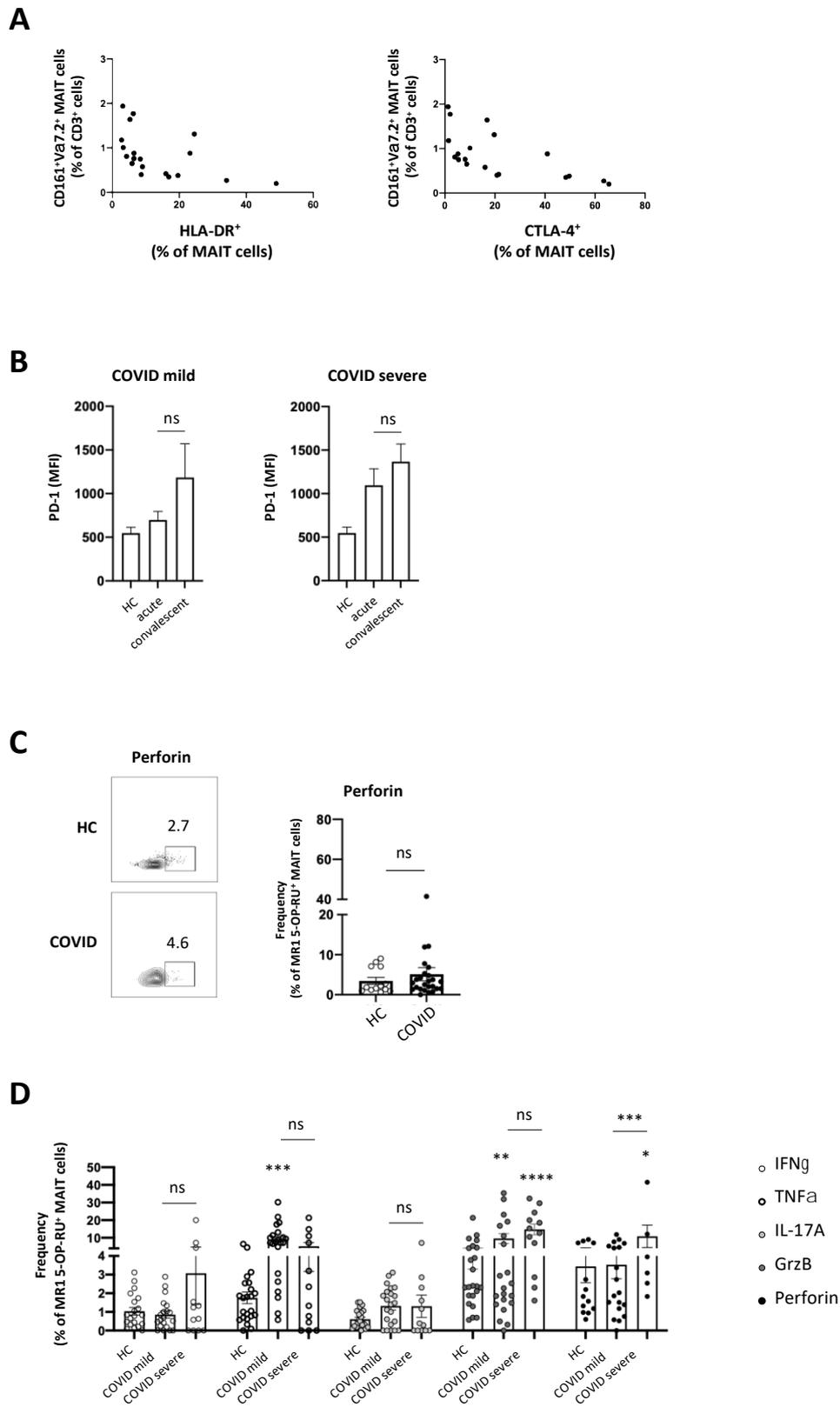


**Figure S1.** Gating strategy for flow cytometry. Gating strategy for regulatory T cells (Treg), defined as CD3<sup>+</sup>CD4<sup>+</sup>CD25<sup>+</sup>CD127<sup>-</sup> cells.



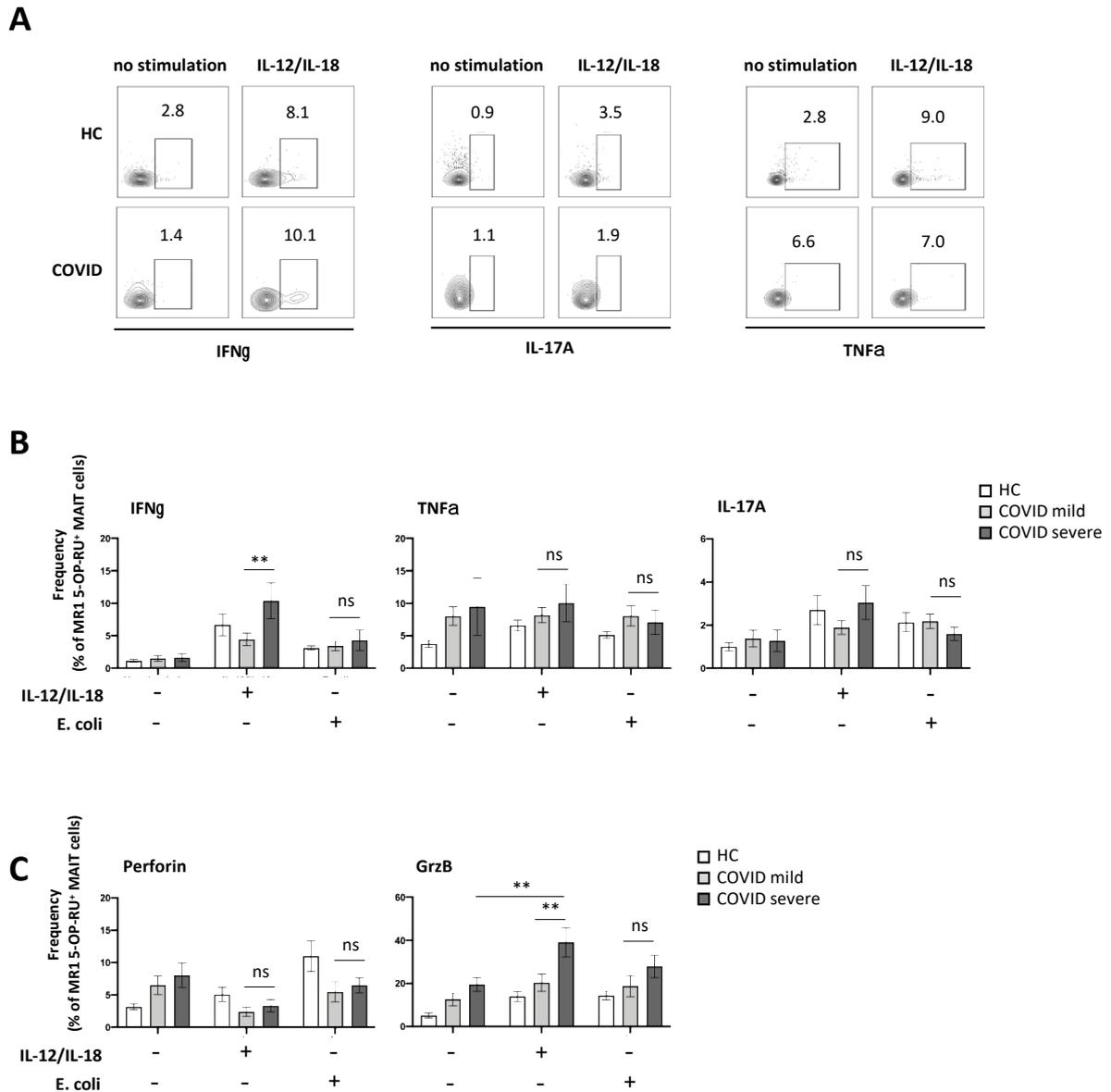
**Figure S2.** MAIT cell gating strategy and T cell receptor (TCR) co-receptor expression. (A) Gating strategy for MAIT cells, defined as CD3<sup>+</sup>CD161<sup>+</sup> Va7.2<sup>+</sup> cells. (B,C) TCR co-receptor expression in CD3<sup>+</sup>MR1 5-OP-RU<sup>+</sup> and CD3<sup>+</sup>CD161<sup>+</sup>Va7.2<sup>+</sup> MAIT cells isolated from peripheral blood of COVID-19 patients and healthy controls (HC), HC  $n = 16/5$ , COVID mild  $n = 16/7$ , COVID severe  $n = 8/5$ , (C) HC  $n = 16/5$ , COVID acute  $n = 20/7$ , COVID convalescent  $n = 9/4$ . Data are presented as mean  $\pm$  SEM and were pooled from 5 independent experiments; each symbol represents one patient; \*  $p < 0.05$ , \*\*  $p < 0.01$  vs. healthy control or as indicated; data were assessed using

two-way analysis of variance (ANOVA) with Tukey's multiple comparisons test (B,C); ns = not significant, DN = CD4/CD8 double negative.



**Figure S3.** MAIT cell activation and ex vivo cytokine expression. (A) Spearman correlation of MAIT cell frequency in peripheral blood of COVID-19 patients and expression of activation and exhaustion markers,  $n = 19$ . (B) PD-1 MFI in CD3<sup>+</sup>CD161<sup>+</sup>Va7.2<sup>+</sup> MAIT cells isolated from peripheral blood of acute and convalescent COVID-19 patients

and healthy controls (HC), HC  $n = 26$ , COVID acute  $n = 9$ , COVID convalescent  $n = 6$ . (C,D) Ex vivo intracellular cytokine expression in CD3<sup>+</sup>MR1 5-OP-RU<sup>+</sup> MAIT cells from peripheral blood of COVID-19 patients and healthy controls, (C) HC  $n = 13$ , COVID  $n = 25$ , (D) HC  $n \geq 13$ , COVID mild  $n \geq 19$ , COVID severe  $n \geq 6$ . Data are presented as mean  $\pm$  SEM and were pooled from 3 independent experiments; (A,C,D) each symbol represents one patient; \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ , \*\*\*\*  $p < 0.0001$  vs. HC or as indicated, data were assessed using one-way analysis of variance (ANOVA) with Tukey's multiple comparisons test (B), unpaired t-test (C) or two-way ANOVA with Tukey's multiple comparisons test (D); ns = not significant



**Figure S4.** Cytokine expression of MAIT cells following in vitro stimulation. Intracellular cytokine expression in CD3<sup>+</sup>MR1 5-OP-RU<sup>+</sup> MAIT cells from COVID-19 patients and healthy controls (HC) following stimulation with 50 ng/ml IL-12/IL-18 (A–C) or co-culture with *E. coli* at 10 bacteria per cell (B,C) for 24 hours. Data are presented as mean  $\pm$  SEM and were pooled from 3 independent experiments; HC  $n = 15$ , COVID mild  $n = 15$ , COVID severe  $n = 15$ ; \*\*  $p < 0.01$ , data were assessed using two-way analysis of variance (ANOVA) with Tukey's multiple comparisons test; ns = not significant.

**Table S1.** Characteristics of acute and convalescent COVID-19 patients.

		<b>COVID-19 acute</b>	<b>COVID-19 convalescent</b>
Cases	number	23	19
Samples	number	24	26
<i>Baseline characteristics</i>			
Age (years)	median	66	61
	(range)	(26-86)	(24-84)
Male	number (%)	14	13 (68.4)
Female	number (%)	9	6 (31.6)
Infectious diseases ward	number (%)	15	7 (36.8)
Intensive care unit	number (%)	8	12 (63.2)
Symptom onset - sampling (days)	median	8	45.5
	(range)	(1-21)	(9-74)